

REMARKS

Claim 11 has been cancelled. Claims 1-10 and 12-20 have been amended. Claims 1-10 and 12-20 are now pending.

No new matter has been added. Support for the amended claims and support for the new claims can be found in the specification and claims as originally filed. Applicant respectfully requests reconsideration of the action mailed September 23, 2002, in view of the foregoing amendment and these remarks.

The Examiner objected to the drawings for the reason that certain/essential numbered elements of the drawings in Figures 1-3 are not labeled. Applicant has amended Figures 1-3 to include the changes requested by the Examiner. Applicant would also like to thank the Examiner for the telephone interview on November 27, 2002, for clarifying the elements that need to be labeled.

The Examiner requested the expression "March-Zanter" in the claims be corrected. Applicant has corrected the expression in claims 6-8.

Claims 9 and 10 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening. Applicant would like to thank the Examiner for allowable subject matters.

Claims 1-8 and 12-15 were rejected as obvious over U.S. patent No. 5,975,697 ("Podoleanu"). Applicant respectfully traverses the rejection.

Claim 1 is directed to an optical interleaver and includes a phase delay difference generating means. The phase delay difference generating means is configured to "generate an interference pattern that is substantially periodic." This phase delay difference generating means is not shown in Podoleanu.

Podoleanu shows an Optical Path Difference ("OPD") Spread Enlarger that includes an item 132. The item 132 uses "a number of very thin parallel glass plates" for providing "different beams with increasing optical paths" that are designed for "spreading the OPD profile of the source correlating function." (column 17, line 65; column 18, lines 4-6). Podoleanu does not show that the item 132 for providing "different beams with increasing optical paths" is configured to "generate an interference pattern that is substantially periodic." Hence, in contrast

to the Examiner's assertion in page 6 of the official action, the item 132 is not the phase delay difference generating means as recited in claim 1.

Because Podoleanu fails to show a phase delay difference generating means that is configured to "generate an interference pattern that is substantially periodic," claim 1 is allowable. Claims 2-8 and 12-15 depend from claim 1 and are allowable for at least the same reason.

Claims 16-20 were rejected as obvious over Podoleanu. Applicant respectfully traverses the rejection.

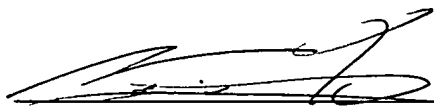
Claim 16 is a method for configuring an optical interleaver and includes "employing a phase difference generating means for generating a phase difference between different portion of optical beams for generating an interference pattern that is substantially periodic." Claim 16 is allowable for at least the same reason set forth with respect to claim 1. Claims 17-20 depend from claim 16 and are allowable for at least the same reason.

Attached is a marked-up version of the changes being made by the current amendment.

Applicant asks that all claims be allowed. Please apply any charges or credits to Deposit Account No. 06-1050.

Respectfully submitted,

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Version with markings to show changes made

In the Claims:

Claim 11 has been canceled.

Claims 1-10 and 12-20 have been amended as follows:

1. (Amended) An optical interleaver comprising:
a first collimating lens for collimating an input optical signal into collimated beams and a second collimating lens for focusing said collimated parallel beams into an output optical fiber;
and
a phase delay difference generating means for generating [a] substantially one phase-delay difference between portions of said collimated parallel beams [for generating an interference in said second collimating lens for selectively enhance signal transmission of certain wavelengths], wherein the phase delay difference generating means is configured to generate an interference pattern that is substantially periodic.
2. (Amended) The optical interleaver of claim 1 wherein:
said phase delay difference generating means comprising a glass plate blocking a portion of said collimated parallel beams for generating a phase delay for a portion of said collimated parallel beams passing therethrough.
3. (Amended) The optical interleaver of claim 1 wherein:
said phase delay difference generating means comprising a glass plate having an upper portion covering an upper portion of said collimated parallel beams and said glass plate having a lower portion covering a lower portion of said collimated parallel beams for generating a phase delay difference between said upper portion and lower portion of said collimated parallel beams.

4. (Amended) The optical interleaver of claim 1 further comprising:
a control means for controlling said phase delay difference generating means for selectively generating signal transmission at different wavelengths according to said interference generated in said second collimating lens.
5. (Amended) The optical interleaver of claim 4 further comprising:
said phase delay difference generating means comprising a glass plate having a plurality predefined segments with different combination of plate-thickness and diffraction index wherein said phase delay difference generating means is controlled by said control means for selectively generating signal transmission at different wavelengths with a predefined program.
6. (Amended) The optical interleaver of claim 1 wherein:
said phase delay difference generating means comprising a set of cascaded Ma[r]ch-Zanter interferometer for generating a series of band-pass signal transmissions.
7. (Amended) The optical interleaver of claim 6 wherein:
each of said a set of cascaded Ma[r]ch-Zanter interferometer comprising a phase delay plate and a half-pitch GRIN lens.
8. (Amended) The optical interleaver of claim 6 wherein:
each of said a set of cascaded Ma[r]ch-Zanter interferometer comprising a phase delay plate and a pair of focus and collimating lenses.
9. (Amended) The optical interleaver of claim 1 further comprising:
a reflective means for reflecting a portion of said collimated beams as second group of parallel beams transmitted along a second optical path away from said collimated parallel beams;
a third collimating lens for focusing said second group of parallel beams into a second output optical fiber; and
a second phase delay difference generating means for generating a second phase-delay difference between portions of said second group of parallel beams for generating an interference

in said third collimating lens for selectively [enhance] enhancing signal transmission of a second set of wavelengths outputting from said second optical fiber.

10. (Amended) The optical interleaver of claim 9 wherein:

said reflective means comprising a partially reflective front surface of said phase delay means and a mirror for reflecting a portion of said collimated beams as second group of parallel beams transmitted along a second optical path away from said collimated parallel beams.

12. (Amended) The optical interleaver of claim [11] 1 further comprising:

a control means for controlling said phase difference generating means controlling a selection of certain wavelengths for enhanced signal transmission.

13. (Amended) The optical interleaver of claim [11] 1 wherein:

said phase difference generating means further comprising an optical element for transmitting optical beams therethrough.

14. (Amended) The optical interleaver of claim 13 wherein:

said phase difference generating means further comprising said optical element for transmitting optical beams therethrough with at least two portions of different thicknesses.

15. (Amended) The optical interleaver of claim 13 wherein:

said phase difference generating means further comprising said optical element for transmitting optical beams therethrough with at least two portions of different diffraction indexes.

[17] 16. (Amended) A method for configuring an optical interleaver comprising:

providing a first collimating lens for collimating an input optical signal into collimated beams and a second collimating lens for focusing said collimated parallel beams into an output optical fiber; and

employing a phase difference generating means for generating a phase difference between different portion of optical beams for generating an interference pattern that is

substantially periodic and for selecting a plurality of single-wavelength signals in the optical beams[for selectively enhancing signal transmissions at certain wavelengths resulting from interference between said different portions of optical beams].

[18] 17. (Amended) The method of claim [17] 16 further comprising:
employing a control means for controlling said phase difference generating means
controlling a selection of certain wavelengths for enhanced signal transmission.

[19] 18. (Amended) The method of claim [17] 16 wherein:
said step of employing said phase difference generating means further comprising a step
of employing an optical element for transmitting optical beams therethrough.

[20] 19. (Amended) The optical interleaver of claim [19] 18 wherein:
said step of employing said optical element for transmitting said optical beams
therethrough is a step of employing said optical element with at least two portions of different
thicknesses for transmitting said beams through.

[21] 20. (Amended) The optical interleaver of claim [19] 18 wherein:
said step of employing said optical element for transmitting said optical beams
therethrough is a step of employing said optical element with at least two portions of different
diffraction indexes for transmitting said beams through.